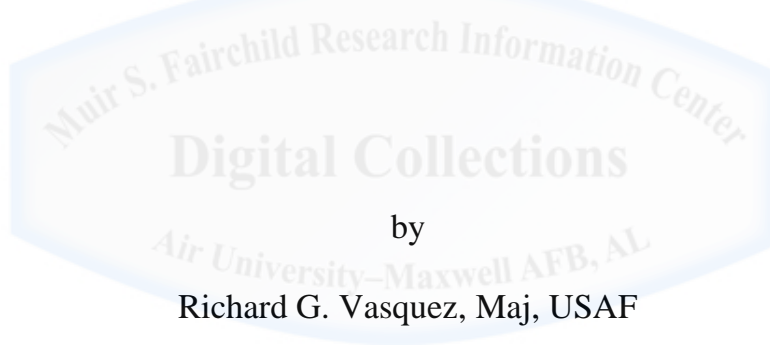AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

PREPARING THE AIR OPERATIONS CENTER TO LEVERAGE THE INTELLIGENCE SURVEILLANCE AND RECONNNAISSANCE CAPABILITIES OF CURRENT AND FUTURE AIRCRAFT
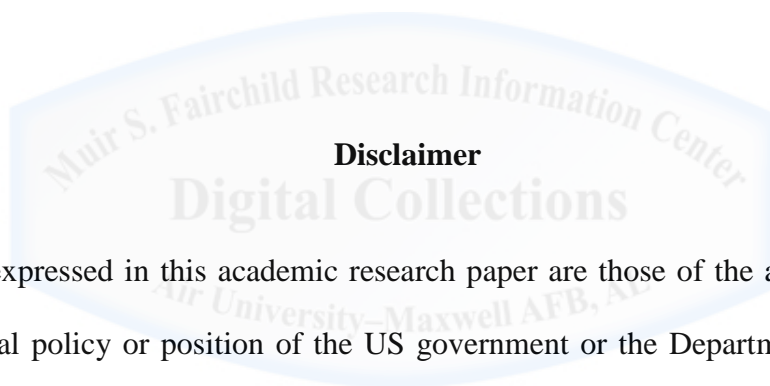
by

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Abstract

The history of air power began when the French Army realized it could use air balloons to generate their own synthetic "high ground." Access to the third dimension permitted increased battle field clarity and thus helped commanders make maneuver adjustments to gain an advantage on the enemy. With the development of the aircraft, the emphasis on using the third dimension for observation fell victim to the aircraft's ability to act as its own kinetic maneuver arm. The emphasis placed on the aircraft's kinetic capabilities helped justify a separate service but it also created a cultural rift between those charged to provide battlefield clarity (Intelligence, Surveillance, and Reconnaissance or ISR) and those charged to employ the aircraft's kinetic potential (Operations).

This rift between ISR and Operations lasted through the last decade and recently began to close due to mission requirements, resource constraints, and advanced technology that dictated the two mission sets recombine. Today, multi-role Remotely Piloted Aircraft (RPAs) and ISR capable fighters CAN do both missions on a single sortie. However, antiquated Air Operations Center (AOC) processes and cultural inertia that supports the continued separation of ISR and Operations prevents such efficiencies. This paper will explain that the continued separation of ISR and Operations will be untenable in future conflicts and thus the AOC must adopt processes which encourage ISR and Operations integration versus the current processes which encourage ISR and Operations de-confliction.

The history of air power began when the French Army utilized manned air balloons to perform reconnaissance missions against Austrian forces at the Battle of Fleurus in 1794. Almost a hundred years later, during the United States Civil War, the Union advanced the capabilities of the balloon by developing a technique for the observer in the balloon to signal his observations to ground commanders in real time using the telegraph. Using this technique, the observers were able to direct artillery fire onto Confederate encampments.[1] This ability to use the third dimension to provide battlefield clarity and targeting information was the precursor to what we now refer to as Intelligence, Surveillance, and Reconnaissance (ISR).

Over time, air power's ability to provide battlefield clarity was minimized in order to advance Airman's desires for an air service separate but equal to the Army and Navy. Assistant Secretary of War Henry S. Breckenridge argued that air power's utility as "just another way to observe, communicate, and perform reconnaissance" dictated aviation's continued relegation as a compliment to the Army.[2] This popular sentiment in 1913 forced enthusiasts to emphasize air power's kinetic potential over its utility for observation and reconnaissance. The unintended effect of emphasizing air power's kinetic potential over its observation merits was a bifurcation between the two mission sets with a clear emphasis on one over the other.

The emphasis of air power's kinetic potential (Operations) over ISR and the advancement of their bifurcation is evident throughout the short history of the Army Air Corps (AAC) and the United States Air Force (USAF) beginning in World War II (WWII). First, the AAC established the Army Corps Tactical School in 1920 committed to advancing the role of strategic bombardment "with little thought given to…reconnaissance."[3] Additionally, WWII also saw the emergence of Tactical Reconnaissance squadrons and Photo-Reconnaissance Wings and

Groups.[4] This functional separation between reconnaissance units and their bomber/fighter sister units helped split ISR from operations, setting in motion a chasm that is apparent today.

Despite lessons from WWII, Korea, and Vietnam regarding the importance of ISR to both the ground and air efforts, the development of the ISR mission set always took a back seat to kinetic operations. To validate this claim, one need only look at the lack of attention given to the ISR mission during the late 1970s and 1980s. During this time, the USAF went through a period of introspection based on lessons it observed during the Vietnam War. From its analysis of the war, the USAF developed multiple training exercises and school houses dedicated to sharpening the USAF's cutting edge. Examples include the creation of RED FLAG and the Air Warrior Close Air Support (CAS) exercise. None of these programs or exercises, at least at their inception, dedicated any significant portions of their syllabi to the ISR mission set. Despite the obvious need and utility of ISR, the USAF dedicated very little effort towards advancing the mission up until the current conflicts.

The past ten years has seen an exponential rise in the importance of the ISR mission. The importance and demand for ISR is due in large part to advancements in the Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) cycle. Commanders now receive analyzed intelligence collected by Surveillance and Reconnaissance aircraft near-real-time (NRT). This NRT capability, coupled with the intelligence driven nature of Counter-insurgency (COIN), forced the reemergence and reemphasis of ISR as a key mission set of the USAF. The current Air Combat Command Strategic Plan reflects this reemphasis by stating that ISR will continue to be one of the USAF's unique and enduring contributions towards national defense.[5]

As the importance of ISR increased, the chasm between ISR and Operations closed significantly giving rise to such mantras as "ISR is Operations." While this perspective may be

gaining ground, the historic subordination of ISR as a mission set generated accepted practices of

presenting and employing air forces that are sub-optimized to take advantage of ISR's capability

and account for its importance. The embodiment of how the USAF presents and employs forces

is the Air Operations Center (AOC). Thus, because the current AOC weapon system was

developed during a period of ISR and Operations bifurcation, accepted practices at the AOC

must be modified to better integrate ISR and Operations to efficiently leverage all ISR capability

of current and future aircraft

   The AOC evolved over many years to complement changing air power doctrine. The

beginnings of the AOC are seen in WWII with the development of the Tactical Control Centers

(TCC). The TCCs served as the primary Command and Control (C2) nodes for tactical air forces

supporting ground forces in the European theater.[6] However, it is important to note that the US

and Royal Air Forces' aircraft supporting the Combined Bomber Offensive did not take direction

from the TCCs as they fell under a separate chain of command. The TCC C2 entity existed

through the Korean War where all air assets were led by the Far East Air Forces (FEAF)

commander Lieutenant General George E. Stratemeyer.[7] However, limited coordination

between Navy and Marine air forces stymied the success of the centralized command structure.

By the time Vietnam began, the US military still lacked a viable C2 entity to control all air

power in theater. The result was three separate organizations responsible for planning and

executing air operations in Southeast Asia.[8] Vietnam ended without a clearly defined C2 node

dedicated to planning and executing a theater air war with a single Air Component Commander.

   The failure to develop a viable C2 entity to control all theater air forces proved to be an issue

during Operation Desert Storm. While the military finally acknowledged the requirement that a

single Airman should control all air forces, the TCC system which evolved slightly from

Vietnam, was sub-optimized for its new role as a theater Air Operations Center (AOC). The new way of employing air power, championed by Lt Col John A. Warden, did not fit the way war had been planned for during the 1980s under the Air Land Battle Doctrine. Despite the issues, the AOC was able to overcome the problems and successfully execute the air war.[9]

The AOC's history proves its adaptability and thus its elasticity. In fact the AOC has changed significantly since the conclusion of Desert Storm becoming a fully functioning "weapon system" tailored to meet the air power needs of Joint Force Commanders (JFC). Currently there are 13 operational AOCs specifically tailored to meet their JFCs needs making each AOC idiosyncratic.[10] The tailorable nature of the AOC weapon system has proven particularly significant over the past ten years in the Central Command (CENTCOM) Area of Operations (AOR). The AOC processes at Al Udeid, Qatar morphed to prosecute irregular wars in Iraq and Afghanistan. However, the nature of the fight and the importance placed on ISR in Iraq and Afghanistan highlighted several accepted AOC practices germane to all AOCs which encourage Operations and ISR de-confliction versus Operations and ISR integration. First, there is no mechanism built into the Master Air Attack Plan (MAAP) development process that forces a daily discussion on whether or not multi-role aircraft with ISR capabilities should be designated for ISR primary missions. Second, there is no doctrinal mechanism to prompt the Combat Plans Division (CPD) Chiefs to recommend the Joint Forces Air Combat Commander (JFACC) allocate multi-role aircraft to ISR primary missions. Finally, there is no doctrinal mechanism which prompts MAAP planners to utilize aircraft with ISR capabilities in an ISR swing-role.

While the current AOC processes and their shortfalls worked for past conflicts, the information centric nature of future warfare coupled with future reduced resources and expanded capabilities demands the above mechanisms be added to the AOC's Air Tasking Order (ATO)

cycle. The late 1990s generated academic discussion regarding the Revolution in Military Affairs (RMA). The predominant ideas behind RMA were the emergence of Network Centric Warfare (NCW) and 4th Generation Warfare (4GW). NCW is defined as "an information superiority-enabled concept of operations that generates increased combat power by networking sensors, decision makers, and shooters to achieve shared awareness, increased speed of command, higher tempo of operations, greater lethality, increased survivability, and a degree of self synchronization."[11] On the other hand 4GW is defined as an "evolved form of *insurgency* that employs all available networks—political, economic, social, military—to convince an opponent's decision makers that their strategic goals are either unachievable or too costly."[12]

The common thread between both of these theories is the importance of leveraging information superiority to overcome one's enemy. The force that can collect, synthesize, and act quicker than the other is more likely to win in a conflict. Colonel John Boyd understood this concept and its application and used it to develop his "OODA" loop theory. OODA stands for Observe, Orient, Decide, and Act. Boyd felt that information superiority offered a decisive advantage to a force because it allows a more rapid and accurate completion of the OODA loop, or commander's decision cycle.[13] Unfortunately, the AOC processes instituted to help Air Component Commanders Orient, Decide, and Act with their air forces did not evolve concurrently with the increased capability and methods now available to Observe.
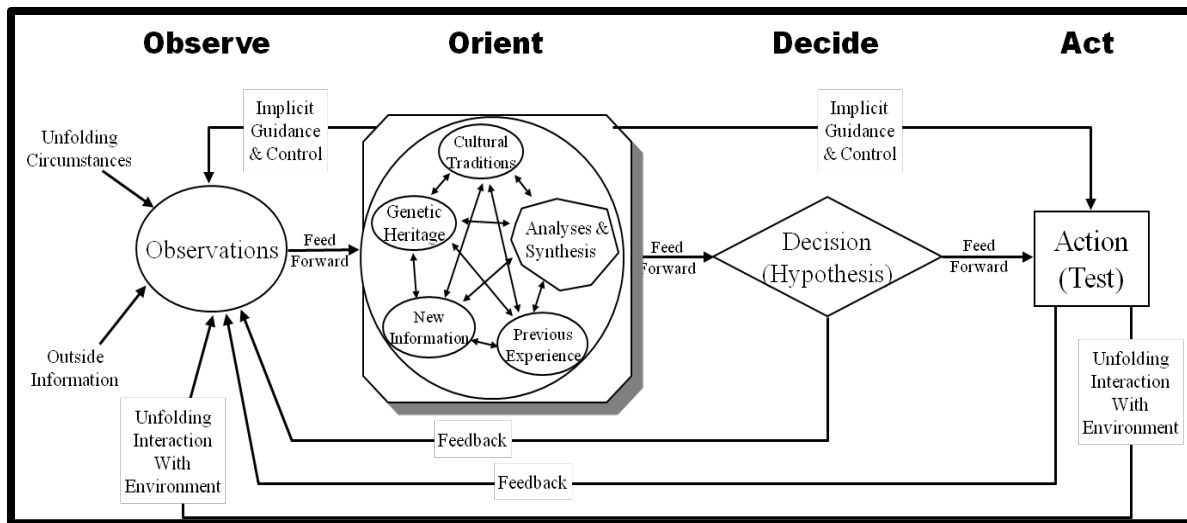
Figure 1. OODA Loop

Regardless of one's opinions about NCW or 4GW, the basic premise that information is of greater importance in warfare in the 21st Century is undisputed. In a world of asymmetric warfare and precision guided munitions, the better your information, the better your chances for victory. USAF leaders have grasped this concept and are looking to shape the future USAF force in a manner that recognizes the importance of Operations, ISR, and their required integration. The first example of this transition has been the increased use and fielding of the Predator Remotely Piloted Aircraft (RPA). When the US invaded Iraq in 2003, the USAF was able to field between four and five Predator Combat Air Patrols (CAP) to provide constant monitoring of the battle space through the phenomenon of Full Motion Video (FMV).[14] FMV capability has grown exponentially in the past ten years to the point where by FY14, the USAF will be operating 65 RPA CAPs.[15] While most of these newly fielded assets have the capability for FMV, many are also equipped with additional sensor packages to collect Signals Intelligence or SIGINT.[16]

The last ten years of fighting a COIN war generated creative ways of utilizing air power for ISR. The most influential creation and the one which will have the most impact on the future of

the USAF is the melding of the kinetic weapon with ISR sensors. The first successful combination of the two took place in August of 2000 when an RQ-1 Predator was modified to shoot Hellfire-C missiles.[17] Since then, all RQ-1 Predators have been replaced by their Hellfire shooting cousin; the MQ-1. Additionally, after recognizing the merits of having ISR platforms with teeth, the USAF purchased the more advanced and capable MQ-9 Reaper which boasts a combat load out comparable to an F-16.

Another technological development that ran parallel and enabled the development of the multi-role RPAs was the USAF's Remote Split Operations (RSO) and Distributed Common Ground System (DCGS) communication architecture. The RSO architecture enables RPAs to be flown by pilots located in the United States via a Satellite Communications downlink. Additionally, the DCGS architecture permits the Surveillance and Reconnaissance information collected by those same RPAs to be analyzed and turned into intelligence. Large groups of analysts located thousands of miles away monitor, analyze, and disseminate the collected Surveillance and Reconnaissance data via the same DCGS architecture.[18] The benefits to executing the missions in this manner are tremendous as it reduces the manning and equipment footprint which must be deployed and maintained in theater.

RPAs as shooters and collectors, coupled with DCGS and RSO architectures, seem to be the prescribed method for waging war in an era where information superiority is key. USAF leaders recognize the utility of the current architecture and intend on expanding it. In 2009, then USAF Deputy Chief of Staff for ISR, Lieutenant General David A. Deptula, authored the *Unmanned Aircraft Systems (UAS) Flight Plan* which sought to map out the USAF's future acquisition of UASs through 2047.[19] His vision was the catalyst and bedrock for the upcoming *RPA Vector:*

Vision and Enabling Concepts 2012-37, expected to be signed out by the Secretary of the Air

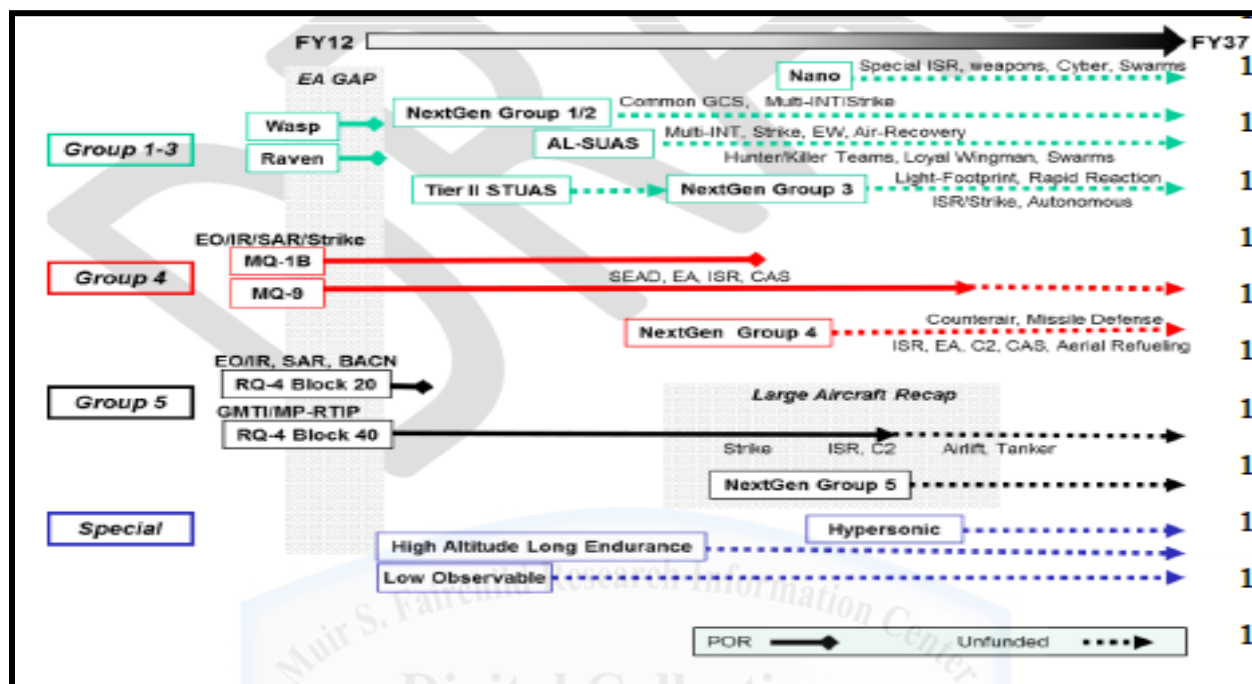Force and the Air Force Chief of Staff by the end of FY12.

Figure 2. Air Force RPA Acquisition Timeline

The *RPA Vector* essentially mirrors Lieutenant General Deptula's UAS Flight Plan with

modifications to account for fiscal constraints and the future Asia-Pacific and Middle East focus.

The future USAF force structure will include a host of multiple UASs grouped into five different

categories. The first three categories will be comprised of the smaller more tactical UASs

including the Scan Eagle and the RQ-7 Shadow. Categories four and five will include those

larger UASs such as the RQ-4 Global Hawk, MQ-1 Predator and the MQ-9 Reaper. Whereas all

of the UASs may have niche capabilities for a theater commander, the primary categories which

will be tasked at the operational level will be four and five. According to the *RPA Vector*, these

systems will eventually be modular, open architecture and networked, built around a common

core airframe, and will demonstrate some autonomous behaviors. These aircraft can be tailored

with capabilities shaped to the mission needs of the supported commander and allocated as needed throughout the theaters.[20]

As shown by Figure 2, RPAs will be a staple in the future of the USAF for both kinetic and ISR related missions. Despite the emphasis on RPAs, the USAF still plans on developing manned aircraft to fulfill a variety of roles. Based on the ISR capabilities built in to the latest fighters (F-22 & F-35) and future fiscal constraints, we can expect that most future manned aircraft will also have built in ISR capability. The aggregate effect being that the majority of aircraft flying as part of the US's air forces, to include sister service aircraft, will have an intelligence collection capability which must be leveraged. This was the primary argument made by Lieutenant General Deptula when he stated, "The F-35s, and for that matter the F-22s currently in the Air Force fleet, 'need to be thought of not just as fighters, but as integrated flying ISR sensor nodes with an additional capability to engage adversaries if necessary.'"[21]

The planned modular and multi-role nature of future RPAs coupled with the increased ISR capability of the Air Force's future fixed wing aircraft suggests that technology and resource constraints will force Operations and ISR integration. Thus it is imperative that the USAF ensure the AOC weapon system and its processes mature to optimize the smaller but more mission-agile US air forces. The first step to making the necessary changes to the AOC processes is to adjust Air Force culture to reflect "ISR is Ops" instead of "ISR versus Ops."

The past decades of accepted ISR and Operations bifurcation unfortunately created a culture that discouraged their integration. This cultural hump is best exhibited by the aviator's aversion to the Non-Traditional ISR (NTISR) mission which emerged during Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF). First, NTISR is "the concept of employing a sensor not primarily used for ISR as part of an integrated collection plan, developed at the

operational level, for preplanned, on-call, ad hoc, and/or opportune collection."[22] While the

concept is as old as air power itself, Air Force culture prioritized kinetics over ISR to the point

where the Air Force had "completely disconnected aircraft from battlefield situational

awareness."[23] Lt Col Hill, a retired Air Force pilot and OIF veteran, summed up the attitude of

many aviators regarding NTISR: "Thinking about what's on the ground and collecting

intelligence was not a main stream topic at the O'Club." Additionally, he writes regarding his

OIF NTISR experience, "For Airmen it (NTISR) was a big lesson. Lots of things went against

our nature. We didn't blow up bridges, we looked under them…It was new stuff to us."[24]

   The cultural aversion to NTISR during OIF and OEF subsided around 2006 and 2007 when

articles emerged espousing the contributions made by the Air Force to the COIN fight through

NTISR.[25] Despite the apparent acceptance of the NTISR mission, many aviators continued to

argue against the mission because it reduced pilot proficiency in their traditional missions,

lowered overall combat proficiency, and advanced the aging of the US's aircraft fleet.[26]

These arguments provide some of the reasoning behind why some Combatant Commanders

mandate that multi-role RPAs be exclusively tasked for ISR primary missions. The idea being

that if multi-role RPAs execute all the ISR missions, then manned fighter aircraft will forego

wear and tear associated with those missions. While this decision reflects the increased

importance of ISR in the minds of commanders, it also demonstrates there still is a bifurcation

between ISR and Operations. Despite multi-role RPA's dual role capability, the AOC only treats

aircraft and their capabilities in terms of either Operations or ISR and rarely (if ever) attempts to

meld the two. While this decision may save flight hours on fixed wing aircraft and increase pilot

proficiency at their "traditional" missions, it also discouraged Operations and ISR integration in

favor of Operations and ISR de-confliction.

While the consequences of Combatant Commander's decisions to use multi-role RPAs solely for ISR missions may stunt ISR and Operations integration at the AOC, the impetus of the decision shows that the Air Force culture *is* changing. Senior Air Force officers accept the complete secession of multi-role assets to ISR primary roles to meet mission requirements. This complete shift in thinking must be followed up with doctrinal adjustments to advance ISR and Operations integration for the future.

As discussed above, the first adjustment must be the insertion of a doctrinal mechanism into the MAAP development process which forces a daily discussion on whether or not fighter aircraft with ISR capabilities should be designated for ISR primary missions. While this seems like an easy task, certain prerequisites are necessary to advance this daily discussion. The first prerequisite is that ISRD Collection Managers must prioritize their "targets" on their Joint Integrated Prioritized Collection List (JIPCL) in the same manner their Operations brethren prioritize targets on the Joint Integrated Prioritized Target List (JIPTL). The second prerequisite is that future CPD members must be taught to think of multi-role RPAs and fighters as Lieutenant General Deptula suggested; "Integrated flying ISR sensor nodes with an additional capability to engage adversaries if necessary."[27]

The current process for developing the JIPCL and the JIPTL reflects the bifurcation of ISR from Operations in the AOC since both processes occur with minimal integration. The JIPTL is the traditional list of targets selected for destruction or effect via kinetic or non-kinetic means while the JIPCL is a list of targets identified and prioritized for intelligence collection. Development and prioritization of the JIPTL targets occurs in the Combat Plans Division (CPD) of the AOC by the Targeting Effects Team (TET). JIPTL prioritization is based on the guidance and intent the JFACC provided to the CPD via the Air Operations Directive (AOD). Using a

Strategy-to-Task methodology, each target is linked to a Tactical Task which is tied to an Operational Task, and linked to a JFACC Operational Objective. The targets are then prioritized based on the priority of the tactical tasks with which they are associated to create the JIPTL. The final JIPTL is eventually blessed by the JFC at the Joint Targeting Coordination Board and sent to the MAAP team. The MAAP team takes the targets from the JIPTL and tasks them for attack based on the available weapons and available aircraft.[28]

The JIPCL on the other hand is generated separately from the JIPTL in the AOC's Intelligence, Surveillance, and Reconnaissance Division (ISRD). The JIPCL is a consolidation of all service component intelligence requirements prioritized according to the JFC's Objectives and his Prioritized Intelligence Requirements (PIRs). The collection requirements and their respective priorities are approved by the JFC or his designated representative (usually the J2) at the Joint Collection Management Board (JCMB) meeting. Once approved, members of the ISR Operations Team in the ISRD schedule the JIPCL "targets" for collection by national, theater, and component ISR assets.[29]

While doctrine states that the processes for the development of both lists encourages integration, the truth is that the two lists only integrate when targets on the JIPTL require pre-strike and post-strike imagery for mission planning and Battle Damage Assessment (BDA).[30] This minimal integration between the two lists perpetuates ISR and Operations de-confliction which ultimately retards satisfaction of JFC and JFACC objectives. The most recent example of this phenomenon occurred during Operation Odyssey Dawn (OOD).

OOD was executed to support United Nations Security Council Resolution 1973 which levied a no-fly zone over Libyan airspace to protect anti-Gaddafi militias from pro-Gaddafi forces. The rapidity with which the operation was planned and executed created many impediments to

mission accomplishment to include a purported dearth of ISR. A Joint Staff analysis of the operation concluded that, "protecting civilians through air and sea operations would have been better enabled by improving ground perspectives, persistent ISR, and a more robust dynamic targeting capability."[31] The purported dearth of persistent ISR assets initially reduced the JFACC's ability to conduct Intelligence Preparation of the Operational Environment (IPOE) prior to and during the initial phases of the operation "making it difficult to build the necessary pattern of life required to maintain momentum concurrently in several areas."[32]

While these conclusions regarding the impact of having limited, dedicated ISR assets are valid, they fail to address the underlying problem instigated by minimal fusion of the JIPCL and the JIPTL. The overlooked corollary conclusion is that the difficulty in updating the IPOE and building the necessary patterns of life may not have been a lack of persistent ISR but instead the result of institutionally accepted norms that prevented consideration of using ISR capable fighter aircraft for ISR primary missions (NTISR) at the *onset* of hostilities.

The combined NATO force included over 140 Coalition strike aircraft including F-15Es, F-16s, and AV-8Bs.[33] While a significant percentage of these aircraft were outfitted with some version of a Targeting Pod (TP), CPD members working in the MAAP cell resisted utilizing TP equipped fighters to service JIPCL "targets" despite encouragement from ISRD collection managers.[34] This resistance to utilizing fighter aircraft as ISR platforms at the onset of hostilities prevented collection of targets whose priority for collection could easily have trumped others' priority for destruction. That is, ISR Operations Planners could have successfully argued that certain target's collection was prioritized higher than the destruction of others and hence been able to use fighters for ISR during the initial stages of the operation when ISR was lacking.[35]

In defense of the CPD MAAP team members for OOD, it is naive to suggest that NTISR could have solved all of the persistent ISR needs of the operation. Additionally, all fighters with multi-role capability might be required primarily for their kinetic capabilities at the onset of any operation. Kinetic requirements to "Gain and Maintain Air Superiority" may trump any use of multi-role aircraft in their ISR capacity at the beginning of a conflict. Furthermore, it is important to note that MAAP team members for OOD eventually did plan creative Strike Coordination and Reconnaissance (SCAR) missions that both mitigated the lack of persistent ISR and confirmed the potential of using multi-role fighter assets in integrated strike and collect modes.[36] Despite the above, the key take away from the initial OOD air campaign is that a mechanism must be in place to force an interrogative at the onset of hostilities to determine whether some fighters should be used primarily for ISR versus blindly accepting the current status quo assumption of the negative. The requirement to generate a mechanism to force a discussion on the possible use of fighters or multi-role RPAs as ISR primary assets is marginally important today but will be essential in the future when resources are limited and interchangeable.

As the Air Force inventory increases its ISR capability to the degree expected on the F-22, F-35, and future RPAs, solely utilizing the kinetic capability of these assets to "Gain and Maintain Air Superiority" throughout a campaign will be inexcusable. The exploitation of their ISR capability will be equally as important to achieving that same objective. As stated by Lieutenant General Deptula, the F-22 and F-35 already have significant ISR capabilities which could be used in a primary roll to "collect, analyze, transmit, and share 'decision quality' information with those who need it."[37] This capability will continue to get better on future 5th Generation manned aircraft and RPAs. According to the *RPA Vector*, category four RPAs will

have SIGINT capable collection modules which will have the ability to find, fix, and track targets emitting given signals. Having this capability on stealthy fighters and multi-role RPAs will be indispensible as threat systems grow more advanced and proliferate reducing the capability of our current primary SIGINT collectors.

The current SIGINT assets available to the USAF include space-based assets (hereto referred to as National, Technical, Means or NTM) and a host of modified fixed-wing aircraft. All are extremely limited when confronted with long-range strategic Surface-to-Air-Missile (SAM) systems and jammers. This has not been a problem in recent conflicts and arguably was not a significant issue for OIF or OOD. However, advanced SAM and satellite jamming systems are quickly proliferating and will hamper SIGINT collection operations in future conflicts. For example, "the Chinese, as well as the Russians, are developing space capabilities that interfere with or disable U.S. space-based navigation, communications, and intelligence satellites."[38] Additionally, the Chinese, Iranians, and North Koreans all currently have strategic long-range SAMs in their inventories.[39] These long range SAMs would, at least at the beginning of a conflict, significantly reduce or negate our fixed-wing SIGINT collection capabilities. Couple this with possible NTM jamming and multi-role aircraft with SIGINT collection capabilities may be the only assets available to map an enemy's Electronic Order of Battle (EOB).

This concept is important as the development and maintenance of an enemy's EOB during an air campaign is linked to gaining and maintaining air superiority. "Gain and maintain air superiority" is every JFACC's first air campaign objective, particularly in a Major Combat Operation (MCO) scenario. Thus, based on predictions about the US's future air forces, multi-role RPAs and ISR capable fighters will *have* to be used in ISR primary roles. A major step in facilitating this is to force the ISRD to prioritize the JIPCL using the same strategy to task

methodology as is used to prioritize the JIPTL. By using the strategy to task methodology to prioritize the JIPCL, ISRD personnel will better be able to show how collection of targets measures in importance compared to destruction of targets. By using the same priority schema as found on the JIPTL, ISR Planners can make better arguments to "out-prioritize" targets for destruction with targets for collection using scarce multi-role aircraft.

The "tactic" of prioritizing the JIPCL using a strategy to task methodology is already maturing and proliferating based on guidance from the USAF Deputy Chief of Staff for ISR through his 2008 Theater ISR CONOPS and efforts of the instructors at the USAF's ISR Operations Course (IROC) at Goodfellow AFB.[40] Thus the next step is to encourage increased consideration of RPAs and fighters for use in ISR roles at the AOC CPD Initial Qualification Training (IQT) Course at Hurlburt Field.

Currently, personnel attending the CPD IQT course are familiarized with the concept of allocating fighter resources for use as ISR assets (NTISR); however, they are not taught to actively question whether collection of certain targets might "out-prioritize" destruction of others.[41] Additionally, CPD IQT students are not taught to consider multi-role RPAs and fighters as "integrated flying ISR sensor nodes with an additional capability to engage adversaries if necessary."[42] This cultural hump at the primary AOC school house must be overcome and rectified if the USAF wants to integrate ISR and Operations versus solely de-conflict them. Accomplishing these prerequisites will synthesize ISR and Operations integration as Operations personnel will be primed to take advantage of multi-role RPAs and fighter ISR capabilities and ISR planners will be able to make their case for asset allocation to ISR missions using a prioritization scheme familiar to MAAP team members.

This leads us to the next doctrinal modification which must occur to further advance ISR and Operations integration at the AOC. The AOC must develop a mechanism to prompt the CPD Chiefs to recommend the JFACC actually "allocate" fighters to ISR primary missions. Air allocation is "the translation of the air apportionment decision into total number of sorties by weapons system type available for each objective and task."[43] Air apportionment is defined as "the determination and assignment of the total expected effort by percentage and/or by priority that should be devoted to the various air operations for a given period of time."[44] The difference being that the JFACC makes his allocation decision based on the JFC's apportionment decision. According to doctrine, the JFACC, via a combined effort between the TET Chief and MAAP planners, begins to formulate air allocation immediately after the air apportionment decision. It is at this point where a mechanism should be introduced to prompt the TET Chief and MAAP planners to take into account priority arguments made by ISR Planners regarding collection requirements during the MAAP process. The TET Chief and MAAP Planners must attempt to make an honest assessment on whether certain targets on the JIPCL should be prioritized over targets on the JIPTL. If the answer is yes, then they should recommend the JFACC allocate a certain percentage of multi-role aircraft to ISR primary missions. Once approved, ISR Collection Managers can task those aircraft for the given ATO day to collect on the priority collection targets.

The final doctrinal mechanism which must be developed is a method of prompting MAAP Planners to utilize aircraft with ISR capabilities allocated for kinetics in a non-interference ISR "swing-role." Presumably, as the number of single-role aircraft decreases and the demand for ISR increases, aircraft tasked via the ATO for kinetic missions should be tasked to perform ISR functions at the conclusion of their primary missions. As already discussed, future USAF

procurement plans include additional RPAs. If modeled after the current RPAs, the new aircraft will have loiter times longer than the current manned aircraft. For example, the multi-role MQ-9 Reaper can carry 1,500 lbs of munitions on a 12-14 hour sortie. The long dwell times of the future multi-role aircraft inventory suggests they can be tasked for both Operations and ISR during the same sortie. MQ-9 Reapers allocated for an Air Interdiction (AI) mission against the enemy's air defense network will promptly re-roll into an ISR platform for collection of ISR targets during the remaining eight hours of dwell time.

To properly accomplish multi-role RPA tasking, the Force Enhancement (FE) Cell ISR Operations Planners dedicated to the MAAP team must increase coordination with the Force Allocation (FAL) cell. Current processes are optimized to task single mission ISR aircraft and possibly task manned fighter aircraft on NTISR missions but there is currently no process for deliberately utilizing multi-role aircraft and RPAs in a "swing role."[45] The available coordination system requires the ISR Operations Planners to increase their coordination with the FAL and develop a graphic which shows where the primary kinetic targets are located in relation to the location of the collection targets. Using this graphic, ISR Planners and CPD Planners can select secondary and tertiary collection targets for aircraft dedicated primarily for kinetics. Once collection targets are identified, those targets should be listed directly on the ATO for the given mission just as the primary kinetic target is listed.

While this tactic is relatively accepted for long dwell multi-role RPAs, it is frowned upon for use with manned fighter aircraft. The primary argument against the ISR swing-role for manned fighter aircraft (threat permitting) is that having to operationally plan for secondary and tertiary ISR missions decreases the probability of achieving the primary objective.[46] For example, if a F-15E two-ship has to take into account the secondary and tertiary ISR targets when they

calculate their planned fuel requirements, having to conduct this operational calculus inherently reduces the chances of striking their primary targets.

While this argument does have some merit, it is easily countered. First, MAAP and ISR Planners can mitigate this issue by ensuring the secondary and tertiary targets are near the primary kinetic target or geographically located along the F-15E's planned egress route. Second, the tactic of using aircraft in swing roles during the same sortie is common place and somewhat encouraged. For example, Suppression of Enemy Air Defense (SEAD) dedicated aircraft, such as the F-16CM will routinely train during RED FLAG to ingress to a target area as part of a strike package, drop its munitions, and then reset into a SEAD CAP to support follow on strike packages. Utilizing strike aircraft in an ISR swing role is essentially the same thing except instead of supporting follow on strike packages, they will be satisfying collection requirements for future strikes.

Regardless of the arguments about which aircraft are best optimized for this tactic, using fighters in an ISR swing role will have to become the norm as resources dwindle but capabilities expand. Reduced aircraft numbers and the expanded capabilities of future aircraft will dictate increased use of this multi-role tactic for all aircraft to help achieve JFACC's objectives. The last 10 years of using fighters for NTISR has helped advanced this idea so that it is now taught as part of the Combat Plans Division Initial Qualification Training course at Hurlburt AFB.[47]

The history of US air power began with the ISR mission set and naturally expanded to include kinetics. Unfortunately the emphasis placed on kinetics drowned out the importance of using aircraft to provide battle field awareness. Thus, the USAF culture developed in a manner that created a barrier between those who collect intelligence and those who use intelligence. Unfortunately, this barrier stymied creativity and flexibility in the way aircraft are employed at

the operational level of war so much that the "tradition" of using aircraft for battlefield

awareness was labeled as "Non-Traditional" (NTISR). In truth, using aircraft for anything other

than ISR is Non-Traditional. This is not to say that ISR is more important than any other USAF

mission set, but rather that ISR should be considered as an additional mission executed

concurrently with every single sortie US forces execute.

The future of the US air forces will reflect the future fiscal realities and information-centric

nature of war which will dictate a smaller, modular, and interchangeable force. This means that

the future US aircraft inventory will have fewer specialized aircraft capable of only single

mission sets. Most aircraft (manned and unmanned) will be able to execute kinetic and ISR

missions and the current plans for manned and unmanned aircraft development support this

claim. In order to make aircraft more survivable, they must be able to act on self-collected,

 near-real-time fused intelligence, making every aircraft a potential sensor or ISR platform. The

USAF must institute the aforementioned mechanisms to ensure the multi-role capability of all

current and future aircraft are exploited efficiently to guarantee future CFACC's can achieve

their objectives despite limited resources.

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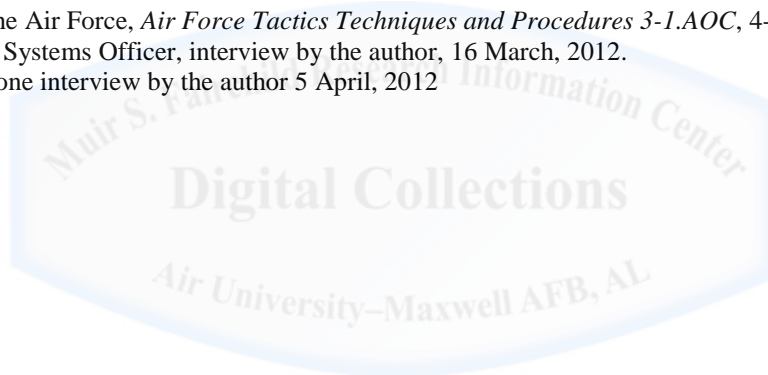
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